

### **Amendments to the Claims:**

This listing of claims will replace all prior versions, and listing, of claims in the application.

1. (Currently Amended) A method for rendering a portal graphical user interface (GUI), comprising:

providing for the representation of a GUI desktop, a GUI look and feel, and a GUI book as a set of controls wherein the controls can be organized in a logical hierarchy;

traversing the representation, wherein the traversing comprises:

associating a theme with a first control in the set of controls;

rendering the first control according to the theme;

rendering any descendents of the first control according to the theme unless the theme is overridden;

wherein a descendent of the first control can override the theme with a second theme such that the descendent of the first control uses the second theme and any descendent of the descendent of the first control uses the second theme unless the second theme is overridden at the descendent of the descendent of the first control; and

wherein one of the set of controls can communicate with another of the set of controls;

wherein controls represent corresponding graphical and functional elements in web applications; the controls have properties that can be read and set, and the controls can interact with each other through an event notification mechanism, the controls also have methods which provide services and which may be overridden to provide specialization of the control, controls are implemented as one or more classes in an object-oriented programming paradigm to allow for new properties, events and/or specialized control methods to be provided by extending base

control classes related to these features, at least some controls can serve as containers for other controls.

2. (Original) The method of claim 1 wherein:

the desktop is a view of a portal;

wherein the desktop can be represented by a desktop control; and

wherein the desktop control is hierarchically superior to the shell control and to the book control.

3. (Original) The method of claim 1 wherein:

the look and feel determines the appearance of the portal;

wherein the look and feel can be represented by a look and feel control; and

wherein the theme is a variation of the look and feel.

4. (Original) The method of claim 1 wherein:

the book can be used to navigate to at least one portal page; and

wherein the book is represented by a book control.

5. (Original) The method of claim 1 wherein:

one of the set of controls can respond to an event raised by another of the set of controls.

6. (Original) The method of claim 1 wherein:

a control can have an interchangeable persistence mechanism.

7. (Original) The method of claim 1 wherein:

a control can have an interchangeable rendering mechanism.

8. (Original) The method of claim 1, further comprising:

accepting a request.

9. (Original) The method of claim 8 wherein:

the request in a hypertext transfer protocol (HTTP) request.

10. (Original) The method of claim 8 wherein:

the request originates from a Web browser.

11. (Original) The method of claim 1, further comprising:

generating a response.

12. (Original) The method of claim 1 wherein:

a control can represent one of: button, text field, menu, table, window, window control, title bar, pop-up window, check-box button, radio button, window frame, desktop, shell, head, body, header, footer, book, page, layout, placeholder, portlet and toggle button.

13. (Original) The method of claim 1 wherein:

associating the theme with the first control can occur when the first control is rendered.

14. (Original) The method of claim 1 wherein:

the first control inherits the theme from a parent control.

15. (Original) The method of claim 1 wherein:

the theme specifies the appearance and/or functioning of an control in the GUI.

16. (Original) The method of claim 1 wherein:

rendering the first control according to the theme can be accomplished in parallel with rendering of other controls.

17. (Original) The method of claim 1 wherein:

the theme can be specified in whole or in part by a properties file.

18. (Original) The method of claim 17 wherein:

the properties file can include at least one of: 1) cascading style sheet; 2) Java Server Page; 3) Extensible Markup Language; 4) text; 5) Hypertext Markup Language; 6) Extensible Hypertext Markup Language; 7) JavaScript; and 8) Flash MX.

19. (Original) The method of claim 17 wherein:

the properties file can specify at least one image.

20. (Original) The method of claim 1 wherein:

the GUI is part of a portal on the World Wide Web.

21. (Currently Amended) A method for rendering a graphical user interface (GUI), comprising:

accepting a request;

mapping the request to the set of controls that represent a GUI desktop, a GUI look and feel, and a GUI book, and wherein the controls are organized in a logical hierarchy;

traversing the representation, wherein the traversing comprises:

associating a theme with a first control in the set of controls;

rendering the first control according to the theme;

rendering any descendents of the first control according to the theme unless the theme is overridden; and

wherein a descendent of the first control can override the theme with a second theme such that the descendent of the first control uses the second theme and any descendent of the descendent of the first control uses the second theme unless the second theme is overridden at the descendent of the descendent of the first control;

wherein controls represent corresponding graphical and functional elements in web applications; the controls have properties that can be read and set, and the controls can interact with each other through an event notification mechanism, the controls also have methods which provide services and which may be overridden to provide specialization of the control, controls are implemented as one or more classes in an object-oriented programming paradigm to allow for new properties, events and/or specialized control methods to be provided by extending base control classes related to these features, at least some controls can serve as containers for other controls.

22. (Original) The method of claim 21 wherein:
- the desktop is a view of a portal;
  - wherein the desktop can be represented by a desktop control; and
- wherein the desktop control is hierarchically superior to the shell control and to the book control.
23. (Original) The method of claim 21 wherein:
- the look and feel determines the appearance of the portal;
  - wherein the look and feel can be represented by a look and feel control; and
  - wherein the theme is a variation of the look and feel.
24. (Original) The method of claim 21 wherein:
- the book can be used to navigate to at least one portal page; and
  - wherein the book is represented by a book control.
25. (Original) The method of claim 21 wherein:
- the request in a hypertext transfer protocol (HTTP) request.
26. (Original) The method of claim 21 wherein:
- the request originates from a Web browser.
27. (Original) The method of claim 21, further comprising:
- generating a response.

28. (Previously Presented) The method of claim 21 wherein:

one of the set of controls can respond to an event raised by another of the set of controls.

29. (Previously Presented) The method of claim 21 wherein:

a control can have an interchangeable persistence mechanism.

30. (Previously Presented) The method of claim 21 wherein:

a control can have an interchangeable rendering mechanism.

31. (Original) The method of claim 21 wherein:

a control can represent one of: button, text field, menu, table, window, window control, title bar, pop-up window, check-box button, radio button, window frame, desktop, shell, head, body, header, footer, book, page, layout, placeholder, portlet and toggle button.

32. (Original) The method of claim 21 wherein:

associating a theme with the first control can occur when the first control is rendered.

33. (Original) The method of claim 21 wherein:

the first control inherits the theme from a parent control.

34. (Original) The method of claim 21 wherein:

the theme specifies the appearance and/or functioning of an control in the GUI.

35. (Original) The method of claim 21 wherein:

rendering the first control according to the theme can be accomplished in parallel with rendering of other controls.

36. (Original) The method of claim 21 wherein:

the theme can be specified in whole or in part by a properties file.

37. (Original) The method of claim 36 wherein:

the properties file can include at least one of: 1) cascading style sheet; 2) Java Server Page; 3) Extensible Markup Language; 4) text; 5) Hypertext Markup Language; 6) Extensible Hypertext Markup Language; 7) JavaScript; and 8) Flash MX.

38. (Original) The method of claim 36 wherein:

the properties file can specify at least one image.

39. (Original) The method of claim 21 wherein:

the GUI is part of a portal on the World Wide Web.

40. (Currently Amended) A method for rendering a graphical user interface (GUI), comprising:

providing for the representation of a GUI desktop, a GUI look and feel, and a GUI book as a plurality of controls wherein the controls are organized in a logical hierarchy;



traversing the representation, wherein the traversing comprises:

- associating a first theme with a first control in the plurality of controls;
- rendering the first control according to the first theme;
- associating a second theme with a second control in the plurality of controls;
- rendering the second control according to the second theme; and

wherein the second control is a descendant of the first control; wherein the second control overrides the first theme; and

a second theme such that the descendent of the first control uses the second theme and any descendent of the descendent of the first control uses the second theme unless the second theme is overridden at the descendent of the descendent of the first control;

wherein controls represent corresponding graphical and functional elements in web applications; the controls have properties that can be read and set, and the controls can interact with each other through an event notification mechanism, the controls also have methods which provide services and which may be overridden to provide specialization of the control, controls are implemented as one or more classes in an object-oriented programming paradigm to allow for new properties, events and/or specialized control methods to be provided by extending base control classes related to these features, at least some controls can serve as containers for other controls.

41. (Original) The method of claim 40, further comprising:

accepting a request.

42. (Original) The method of claim 40 wherein:

the desktop is a view of a portal;  
wherein the desktop can be represented by a desktop control; and  
wherein the desktop control is hierarchically superior to the shell control and to the book control.

43. (Original) The method of claim 40 wherein:

the look and feel determines the appearance of the portal;  
wherein the look and feel can be represented by a look and feel control; and  
wherein the theme is a variation of the look and feel.

44. (Original) The method of claim 40 wherein:

the book can be used to navigate to at least one portal page; and  
wherein the book is represented by a book control.

45. (Original) The method of claim 41 wherein:

the request in a hypertext transfer protocol (HTTP) request.

46. (Original) The method of claim 41 wherein:

the request originates from a Web browser.

47. (Original) The method of claim 40, further comprising:

generating a response.

48. (Previously Presented) The method of claim 40 wherein:

the first control can respond to an event raised by the second control.

49. (Previously Presented) The method of claim 40 wherein:

a control can have an interchangeable persistence mechanism.

50. (Previously Presented) The method of claim 40 wherein:

a control can have an interchangeable rendering mechanism.

51. (Original) The method of claim 40 wherein:

a control can represent one of: button, text field, menu, table, window, window control, title bar, pop-up window, check-box button, radio button, window frame, desktop, shell, head, body, header, footer, book, page, layout, placeholder, portlet and toggle button.

52. (Original) The method of claim 40 wherein:

the first control inherits the first theme from a parent control.

53. (Original) The method of claim 40 wherein:

the first theme specifies the appearance and/or functioning of the first control in the GUI.

54. (Original) The method of claim 40 wherein:

the rendering the first control can be accomplished in parallel with the rendering of the second control.

55. (Original) The method of claim 40 wherein:

a theme can be specified in whole or in part by a properties file.

56. (Original) The method of claim 55 wherein:

the properties file can include at least one of: 1) cascading style sheet; 2) Java Server Page; 3) Extensible Markup Language; 4) text; 5) Hypertext Markup Language; 6) Extensible Hypertext Markup Language; 7) JavaScript; and 8) Flash MX.

57. (Original) The method of claim 55 wherein:

the properties file can specify at least one image.

58. (Original) The method of claim 40 wherein:

the GUI is part of a portal on the World Wide Web.

59. (Currently Amended) A machine readable medium having instructions stored thereon that when executed by a processor cause a system to:

provide for the representation of GUI desktop, a GUI look and feel, and a GUI book as a set of controls wherein the controls are organized in a logical hierarchy;

traverse the representation, wherein the traversing comprises instructions to cause the system to:

associate theme with a first control in the set of controls;

render the first control according to the theme;

render any descendents of the first control according to the theme unless the theme is overridden;

wherein a descendent of the first control can override the theme with a second theme such that the descendent of the first control uses the second theme and any descendent of the descendent of the first control uses the second theme unless the second theme is overridden at the descendent of the descendent of the first control; and

wherein one of the set of controls can communicate with another of the set of controls;

wherein controls represent corresponding graphical and functional elements in web applications; the controls have properties that can be read and set, and the controls can interact with each other through an event notification mechanism, the controls also have methods which provide services and which may be overridden to provide specialization of the control, controls are implemented as one or more classes in an object-oriented programming paradigm to allow for new properties, events and/or specialized control methods to be provided by extending base control classes related to these features, at least some controls can serve as containers for other controls.

60. (Original) The machine readable medium of claim 59, further comprising:

accepting a request.

61. (Original) The machine readable medium of claim 59 wherein:

the desktop is a view of a portal;

wherein the desktop can be represented by a desktop control; and

wherein the desktop control is hierarchically superior to the shell control and to the book control.

62. (Original) The machine readable medium of claim 59 wherein:

the look and feel determines the appearance of the portal;

wherein the look and feel can be represented by a look and feel control; and

wherein the theme is a variation of the look and feel.

63. (Original) The machine readable medium of claim 59 wherein:

the book can be used to navigate to at least one portal page; and

wherein the book is represented by a book control.

64. (Original) The machine readable medium of claim 59 wherein:

one of the set of controls can respond to an event raised by another of the set of controls.

65. (Original) The machine readable medium of claim 59 wherein:

a control can have an interchangeable persistence mechanism.

66. (Original) The machine readable medium of claim 59 wherein:

a control can have an interchangeable rendering mechanism.

67. (Original) The machine readable medium of claim 59, further comprising instructions that when executed cause the system to:

accept a request.

68. (Original) The machine readable medium of claim 67 wherein:

the request in a hypertext transfer protocol (HTTP) request.

69. (Original) The machine readable medium of claim 67 wherein:

the request originates from a Web browser.

70. (Original) The machine readable medium of claim 59, further comprising instructions that when executed cause the system to:

generate a response.

71. (Original) The machine readable medium of claim 59 wherein:

a control can represent one of: button, text field, menu, table, window, window control, title bar, pop-up window, check-box button, radio button, window frame, desktop, shell, head, body, header, footer, book, page, layout, placeholder, portlet and toggle button.

72. (Original) The machine readable medium of claim 59 wherein:

associating the theme with the first control can occur when the first control is rendered.

73. (Original) The machine readable medium of claim 59 wherein:

the first control inherits the theme from a parent control.

74. (Original) The machine readable medium of claim 59 wherein:

the theme specifies the appearance and/or functioning of an control in the GUI.

75. (Original) The machine readable medium of claim 59 wherein:

rendering the first control according to the theme can be accomplished in parallel with rendering of other controls.

76. (Original) The machine readable medium of claim 59 wherein:

the theme can be specified in whole or in part by a properties file.

77. (Original) The machine readable medium of claim 76 wherein:

the properties file can include at least one of: 1) cascading style sheet; 2) Java Server Page; 3) Extensible Markup Language; 4) text; 5) Hypertext Markup Language; 6) Extensible Hypertext Markup Language; 7) JavaScript; and 8) Flash MX.

78. (Original) The machine readable medium of claim 76 wherein:

the properties file can specify at least one image.

79. (Original) The machine readable medium of claim 59 wherein:

the GUI is part of a portal on the World Wide Web.

80. (Currently Amended) A machine readable medium, comprising:

a code segment including instructions to provide for the representation of GUI desktop, a GUI look and feel, and a GUI book as a set of controls wherein the controls are organized in a logical hierarchy;



a code segment including instructions to traverse the representation comprising:

a code segment including instructions to associate theme with a first control in the set of controls;

a code segment including instructions to render the first control according to the theme;

a code segment including instructions to render any descendents of the first control according to the theme unless the theme is overridden;

wherein a descendent of the first control can override the theme with a second theme such that the descendent of the first control uses the second theme and any descendent of the descendent of the first control uses the second theme unless the second theme is overridden at the descendent of the descendent of the first control; and

wherein one of the set of controls can communicate with another of the set of controls;

wherein controls represent corresponding graphical and functional elements in web applications; the controls have properties that can be read and set, and the controls can interact with each other through an event notification mechanism, the controls also have methods which provide services and which may be overridden to provide specialization of the control, controls are implemented as one or more classes in an object-oriented programming paradigm to allow for new properties, events and/or specialized control methods to be provided by extending base control classes related to these features, at least some controls can serve as containers for other controls.